DATAPACK 2000 ACQUISITION SYSTEM

FIELD PORTABLE DIGITAL CPT DATA ACQUISITION AND ANALYSIS

VERTEK's DataPack 2000 is a feature packed, field portable Cone Penetrometer Technology (CPT) data acquisition and analysis package combining the capabilities of the new digital CPT probes and the dual PMT Fuel Fluorescence Detector (FFD). Developed for commercial CPT service providers, the DataPack 2000 provides a simple "all-in-one" approach to a Geotechnical and Environmental capabilities package.

- **FIELD PORTABLE** - The DataPack 2000 is housed in a water-resistant instrument case and includes a powerful Pentium ruggedized Windows 98 notebook computer with a Sunlight readable touchscreen color monitor. The computer can be easily disconnected from the controller for other uses, and includes an internal shock-mounted 3.5 inch floppy drive and hard disk for reliable, long term data storage. A fully hardened case and waterproof keyboard are also available as options.
- **EASY TO OPERATE** - Sensor specific data (calibration factors, serial numbers, and sensor type) are stored in each sensor module in the cone, and are automatically transmitted to the Datapack 2000 with each penetration, allowing a technician with minimal training to operate the system. Easy-to-follow pull down menus let the operator quickly input all pertinent test information, and the digitized voltage signal from any sensor can be viewed on screen for simple field diagnostics.
- **EFFICIENT DATA COLLECTION** – A digital CPT probe is the heart of the system. The standard probe includes tip, sleeve, and pore pressure sensors and optional modules for seismic, dual axis inclination, soil moisture,and resistivity are easily added. The system stores unlimited data points per channel for each test, data is saved to a disk after each sample to ensure data integrity. Measurements are also plotted in real time on the computer screen during the push, providing immediate geotechnical and environmental data, and alerting the operator to potential problem layers. An optional shut-down circuit can cut power to the push unit if sensors exceed operator-selected alarm levels. The Datapack 2000 can also be used with VERTEK's Dual PMT FFD system allowing the operator to display and record real-time data on hydrocarbon contamination.

VERTEK
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- **REPORT-QUALITY FIELD PLOTS** - The Datapack 2000 generates report-quality plots in the field on any Windows 98 supported printer, including color printers - even during a push! Plot scales can be set automatically, and wide variety of engineering parameters can be selected. Equipped with a fax modem and a cellular phone, it is possible for the operator to send data to the project engineer thousands of miles from the test site before the probe is even out of the ground.
- **EXPANDABLE** - The DataPack 2000 has an auxiliary channel which provides 4.00 VDC excitation and a 200 gain bi-polar signal input, which allows the user to utilize the optional tip, sleeve, and pore pressure verification device package, or to input optional signal devices.
- **HIGH-POWERED DATA ANALYSIS** - Data analysis software is included with the Datapack 2000, allowing the operator to display both the test data and derived parameters in formats appropriate to client requirements. Standard classification algorithms based on sleeve friction and pore pressure ratios are included for classification of soil types. Journal published empirical correlations are employed to estimate friction angle, undrained shear strength, standard penetration test (SPT) blow count, relative density, and overconsolidation ratio. Pore pressure dissipation algorithms are built into the software, and the results can be used to estimate the hydraulic conductivity of cohesive soils..

SPECIFICATIONS	
Computer	Ruggedized, sunlight readable notebook computer, shock-isolated hard drive and floppy disk, touch screen, and color monitor
Power	12VDC, 120VAC (wall adapter included)
Channels	0 – 5VDC Analog Input
	Tip Stress
	Sleeve Stress
	Pore Pressure
	Depth
	FFD 1 + 2, Seismics (optional)
	Auxiliary
Excitation Voltage	4.0VDC
Gain	200 (tip, sleeve, and pore pressure)
Filtering Frequency	1 Hz
Operating Temperature	0 – 120 °F
Drift	0.05% FS/ °F (typical)

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